Weeks Mills Quadrangle, Maine

Bedrock geologic mapping by

Timothy W. Grover
Leslie C. Fernandes

Digital cartography by:
Susan S. Tolman

Robert G. Marvinney
State Geologist

Cartographic design and editing by:
Robert D. Tucker

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Maine Geological Survey

Address: 22 State House Station, Augusta, Maine 04333
Telephone: 207-287-2801 **E-mail:** mgs@maine.gov
Home page: http://www.maine.gov/doc/nrimc/nrimc.htm

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Most of the bedrock that underlies the Weeks Mills quadrangle is stratified, or layered, rock of Ordovician to Silurian age (Photos 1-5), that was subsequently changed into metamorphic rock by heat and pressure, probably in the Devonian Period (see Geologic Time Scale below). A lesser amount of intrusive igneous rock, solidified from molten rock, is also present, as a large mass in the northwest corner of the map area (Photo 6), and as thin sheets injected into the metamorphic rocks (Photos 2, 6-8). Features attributed to the metamorphic process include stretching and folding of layers (Photos 8-11), as well as the presence of minerals such as garnet and andalusite that form at high temperatures (Photos 2, 11). The bedrock has been broken by several faults, shown on the map by the offseting of units, and by the presence of a rock called mylonite that consists of highly sheared rock typically found in fault zones (Photo 12).

Photo 1. This photograph shows some of the variation in rock types of the Nehumkeag Pond Formation (**Onp**). The gneisses of the Nehumkeag Pond Formation, at least in part, are metamorphosed volcanic rocks. *(Roadcut along Route 17 east of South Windsor.)*

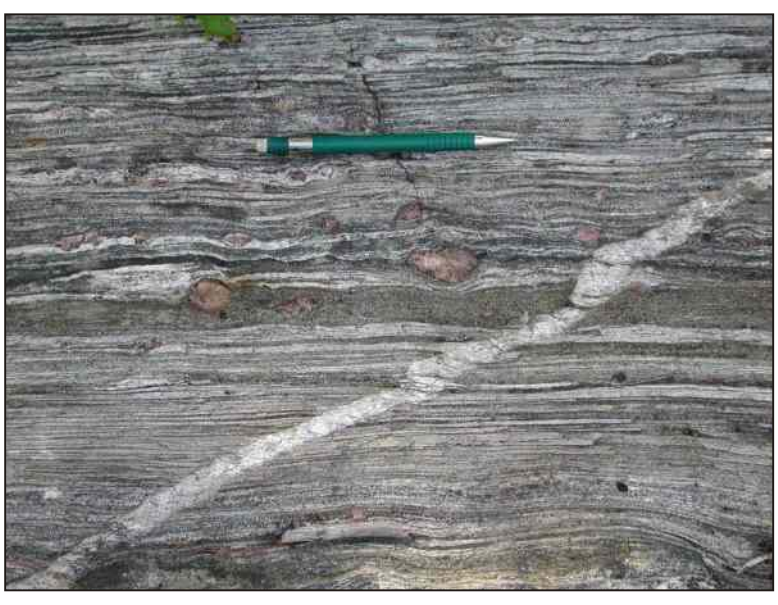

Photo 2. This garnet-bearing amphibolite of the Nehumkeag Pond Formation (**Onpa**) formed as result of the metamorphism of an iron-rich igneous rock during the Devonian Acadian orogeny. The white vein cutting across the rock is an igneous rock that intruded after the amphibolite was metamorphosed. *(0.7 miles northeast of Savade Pond.)*

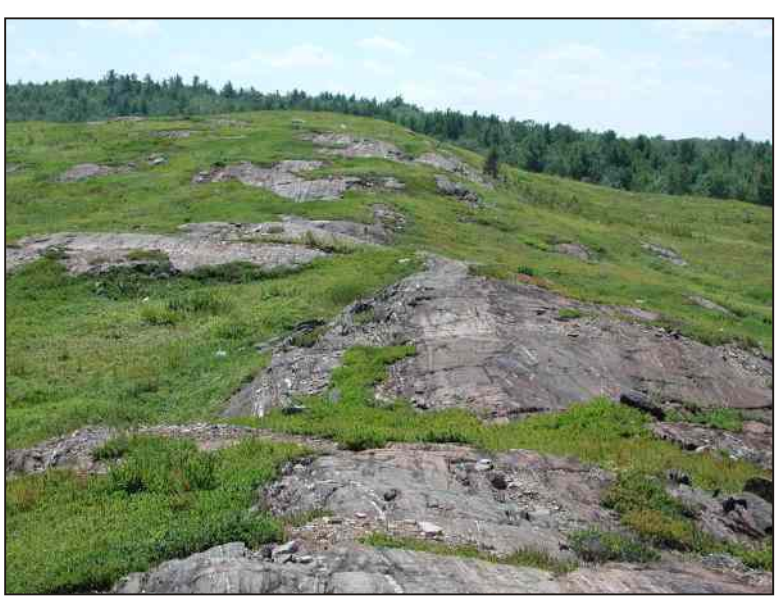

Photo 3. Outcrop of schists of the Scarboro Formation (**Osc**) in a blueberry field in the southeastern corner of the map area. The northeast-trending ridge is controlled by the bedrock structure. *(East of Black Brook.)*

Photo 4. Woozel has a nose for sniffing out the outcrop! Here she is sitting on an outcrop of the Hutchins Corner Formation (**SOhc**), with thin greenish and purplish gray layers steeply inclined.

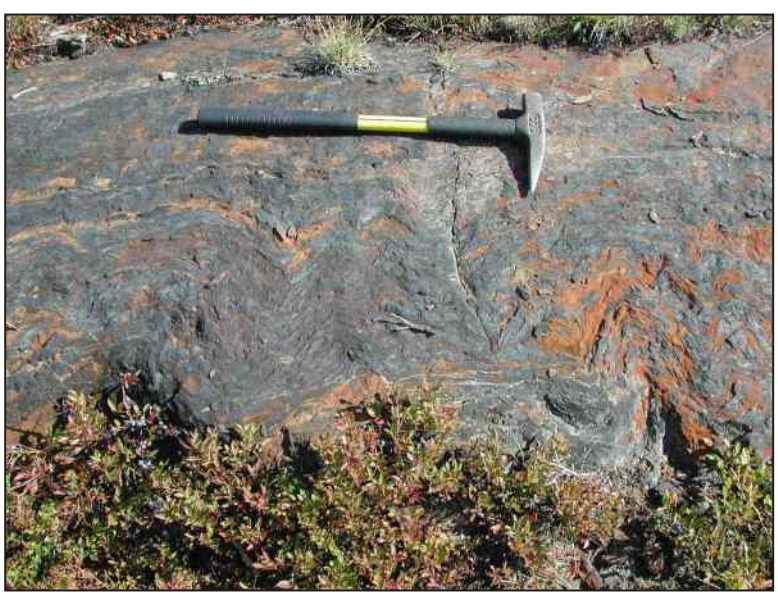

Photo 5. This rusty weathering rock is one of several thin bands of iron sulfide-bearing schist (**SOhcr**) that occur in the Hutchins Corner Formation. *(1.2 miles north of Windsor Station.)*

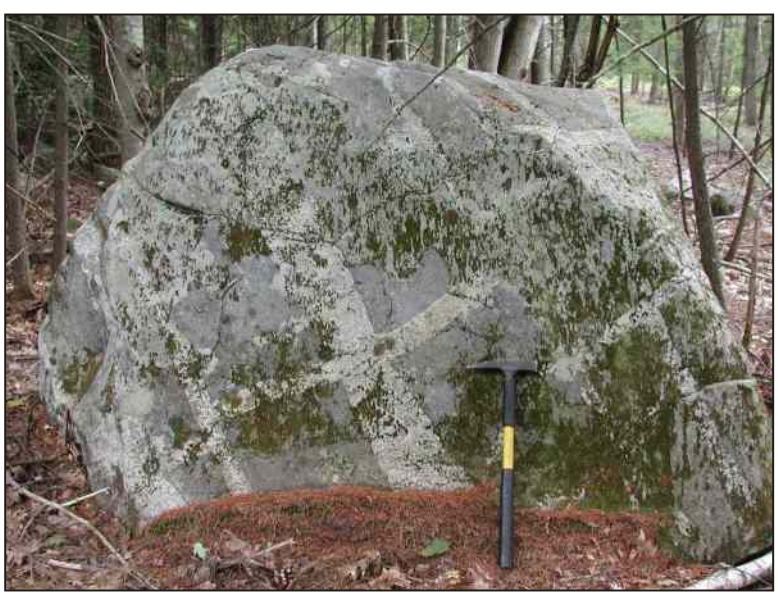

Photo 6. A boulder of Threemile Pond plutonic rock (**Dg**) which was intruded by white pegmatite dikes. *(East of Threemile Pond.)*

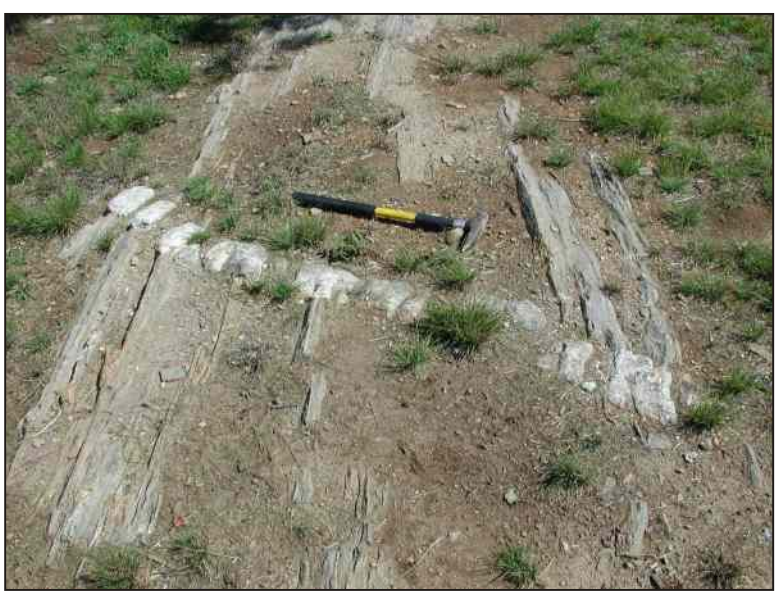

Photo 7. A white pegmatite dike cuts across the layering in the metasedimentary rocks of the Hutchins Corner Formation. Dikes of this sort are common. *(0.5 miles east of Weeks Mills.)*

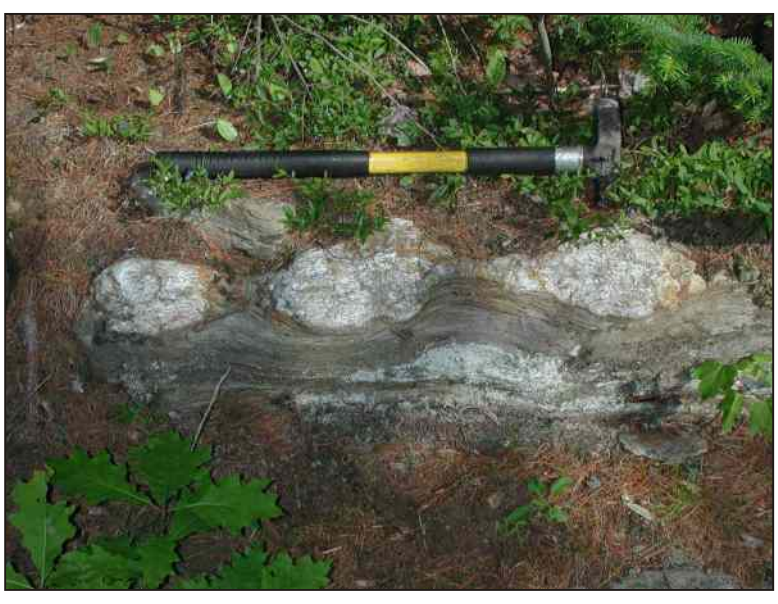

Photo 8. A stretched pegmatite dike in gneisses of the Hutchins Corner Formation. At one time the white pegmatite dike, which is an igneous rock, was a layer of constant thickness. After it was emplaced it was deformed during the Acadian orogeny. *(0.8 miles southeast of Weeks Mills.)*

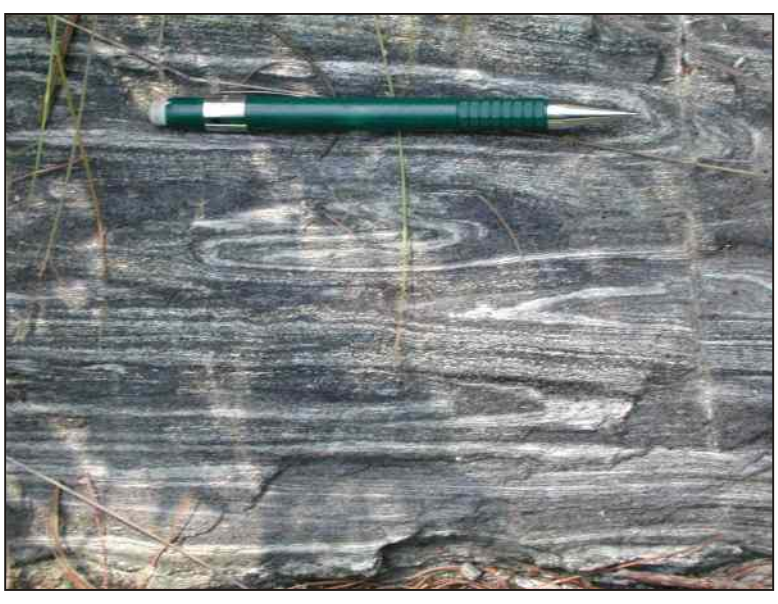

Photo 9. The tight, small scale folds in this amphibolite of the Nehumkeag Pond Formation suggest deformation during the Acadian orogeny was intense. *(1.6 miles northeast of Savade Pond.)*

Photo 10. The prominent Z-shaped folds in this exposure of the Scarboro Formation are common throughout the Weeks Mills quadrangle. They are thought to be associated with right lateral shear along the Norumbega fault system. *(Power line east of Travel Pond.)*

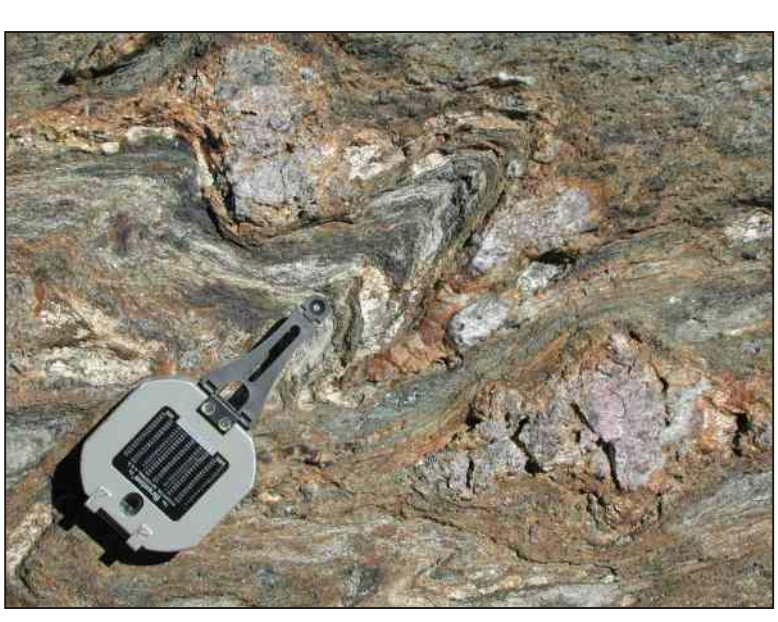

Photo 11. Asymmetric folds in the Scarboro Formation. There is a large pink andalsite crystal on the right side of the Brunton compass. The presence of andalusite indicates that these rocks were metamorphosed at relatively high temperature at shallow levels in the Earth's crust. *(Same blueberry field as Photo 3.)*

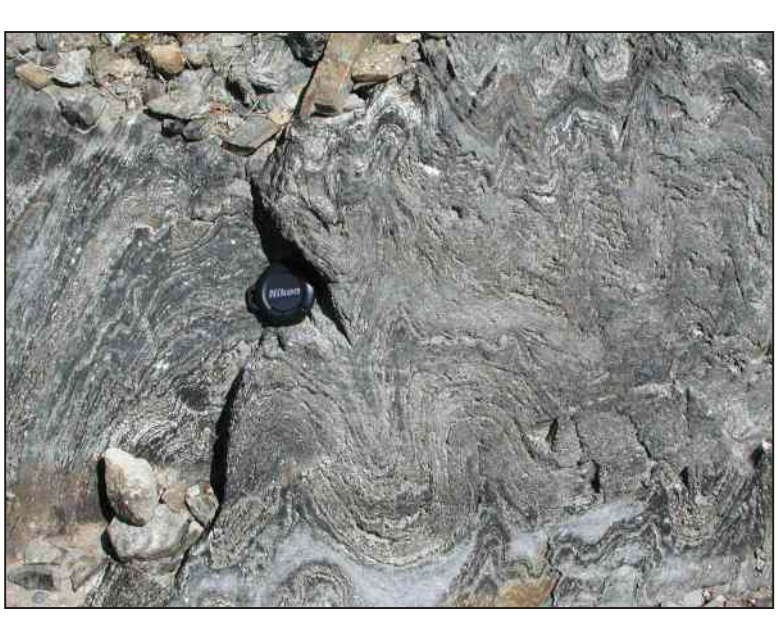

Photo 12. Folded mylonitic foliation in the Sandhill Corner mylonite (**scm**). A mylonite forms when the crystal size of a rock is reduced through shearing of the rock. The shearing results when blocks of rock slide past one another. *(About 400 feet west of Photo 3.)*

GEOLOGIC TIME SCALE

Geologic Age		Absolute Age*
Cenozoic Era		0-65
Mesozoic Era	Cretaceous Period	65-145
	Jurassic Period	145-200
	Triassic Period	200-253
Paleozoic Era	Permian Period	253-300
	Carboniferous Period	300-360
	Devonian Period	360-418
	Silurian Period	418-443
	Ordovician Period	443-489
	Cambrian Period	489-544
Precambrian time		Older than 544

* In millions of years before present. (Okulitch, 2002)

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